

AZALEA SAWFLIES AND A NEW SPECIES OF NEMATUS  
PANZER (HYMENOPTERA: SYMPHYTA)

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ABSTRACT—*Arge clavicornis* (Fabricius) (Argidae), *Amauronematus azaleae* Marlatt and *Nematus lipovskyi*, n. sp. (Tenthredinidae) have been reared from larvae feeding on *Azalea* in eastern North America. Differences for the adults, larvae and life histories for these species are given.

Three sawflies are known to feed on *Azalea* in North America, *Arge clavicornis* (Fabricius) in the Argidae, and *Amauronematus azaleae* Marlatt and *Nematus lipovskyi*, n. sp. in the Tenthredinidae. These sawflies are differentiated below. All are apparently free leaf feeders in the larval stage and all are found in eastern North America.

ARGIDAE

*Arge clavicornis* (Fabricius)

This is a species complex, composed of a myriad of color forms which have been recorded from a number of host plants, and the form that has been reared from *Azalea* must be referred to *clavicornis* at present. The few adults I have seen reared from larvae on *Azalea* are all black with only each tibia and part of each tarsus whitish. They have subhyaline wings with an infuscated spot below the stigma of the forewing. The larvae are typically argidlike with an obvious lobe next to each tarsal claw. This, with the following features, will distinguish the larva from the other 2 *Azalea* species: Head amber, eyespot black, later instars with broad longitudinal black stripe from occiput to clypeus; body pale, probably green when alive, spot on each surpedal lobe and each setiferous tubercle on annulets 2 and 3 of abdominal segments blackish; abdominal segments 1 to 8 each with 3 annulets, annulets 2 and 3 setiferous; tenth abdominal tergum without caudal protuberances.

Little is recorded concerning the life history of the *Azalea* form. It is found later in the season than *N. lipovskyi* and *A. azaleae*, with the adults apparently flying in July and the larvae feeding during August and September. Eggs are inserted in the leaf in a row around the edge. The only specimens I have seen from *Azalea* are from Connecticut and Massachusetts.

TENTHREDINIDAE

*Amauronematus azaleae* Marlatt

Adults of this species are readily separated from *N. lipovskyi* by the predominantly black coloration with the following whitish: orbits and face below antennae,

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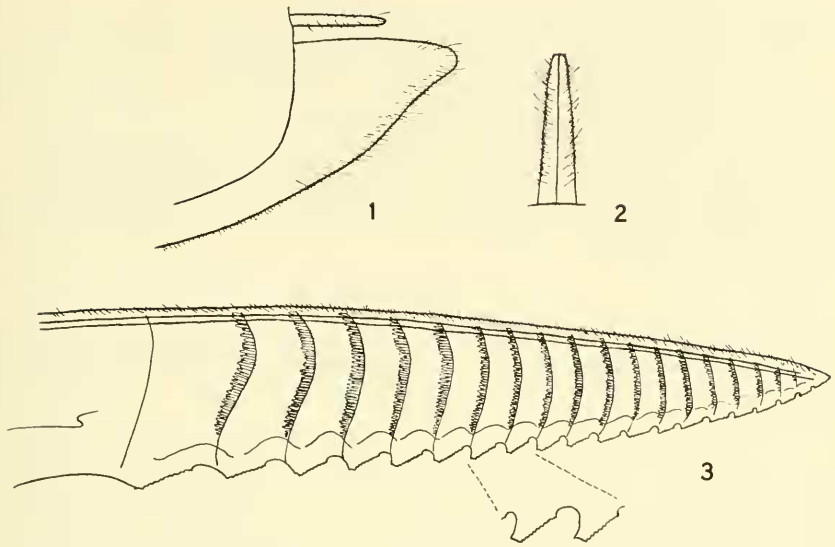


Fig. 1-3. *Nematus lipovskyi*. 1, sheath, lateral view. 2, sheath, dorsal view. 3, lancet.

pronotum, tegulae, legs, and venter of abdomen. Both sexes are similar in coloration. Dyar (1897) described the larva and the following is taken from his description and several specimens I have examined: Head amber, body pale, probably green when alive; eyespot black, tubercles lateral to and below abdominal spiracles blackish. Abdominal segments 1 to 8 each with 5 annulets, annulets 2 and 3 with small setae. Tenth abdominal tergum with pair of short caudal protuberances.

Dyar (1897) reared this species under his code number 5S. Larvae were collected from *Azalea* June 23, 1895 at Jefferson Highlands, New Hampshire. They were "edge eaters,"—"eating the young leaves." The larvae disappeared before the end of June and adults emerged March 22, 1896. There is a single generation a year.

I have seen adults only from New Hampshire and larvae from Pennsylvania and Washington, D. C.

*Nematus lipovskyi* Smith, new species

Female: Length, 4.5-5.5 mm. Mostly pale orange with following black: antenna, ocellar area with spot sometimes extending part way on frons and following antennal furrows to antennal sockets, mesoprescutum except for lateral margins, longitudinal stripe on each lateral lobe, posterior half or less of mesoscutellum, posttergite, metascutum, margins of cervical sclerites, mesepimeron except for lower posterior margin, metepimeron, sometimes spot on upper edge of each hind coxa, most of basal plates except for lateral areas, transverse marks on meson of each abdominal tergum from 2 to 6 and decreasing in size posteriorly, apex of sheath.

Tarsi sometimes infuscated. Wings hyaline, veins and stigma brownish to straw-colored.

Third antennal segment subequal in length to fourth segment, segments beyond fourth gradually decreasing in length. Clypeus circularly emarginated at center; malar space equal to diameter of front ocellus. Mostly shining but head, mesoscutellum, and mesopleuron with rather dull, shagreened appearance. Sheath very slender from above, in lateral view narrowly rounded at apex, straight on dorsum, and ventral margin slightly concave (fig. 1, 2). Lancet with about 20 serrulae, basal serrulae deeper and more pointed than the shallower and more truncated apical serrulae (fig. 3).

Male: Unknown.

**Holotype:** Female, labeled "Melrose Hlds., Mass., swamp azalea, Gip. Moth Lab 12164J33, bred specimen 5-19-24." U.S.N.M. type no. 72588.

**Paratypes:** ALABAMA: "Alab. 2257" Collection C. F. Baker (1 ♀). MAINE: Cumberland Co., North Bridgeton, May 24, 1966, D. R. Smith (1 ♀); Falmouth, May 11, 1970, ex Azalea, L. J. Lipovsky (3 ♀♀). MARYLAND: Takoma Pk., IV-21-44, H. K. Townes (1 ♀). MASSACHUSETTS: data as for holotype (5 ♀♀); data as for holotype except dates, 5-15-24 (9 ♀♀), 5-17-24 (1 ♀), 5-22-24 (2 ♀♀). NEW HAMPSHIRE: Durham, V-21-1972, host plant *Azalea mollis*, J. G. Conklin (4 ♀♀). NEW JERSEY: Brown's Mills Jc., V-19-1907 (1 ♀). PENNSYLVANIA: Stoverdale, V-10-16, flying, W. S. Fisher, Colr. (1 ♀); Rockville, IV-21-12, coll. by E. Daecke (1 ♀). VIRGINIA: Falls Church, May 6, 1917, Azalea, C. T. Greene, colr. (1 ♀). At the U. S. National Museum; Entomology Laboratory, Maine Forest Service, Augusta; and University of New Hampshire.

**Host:** As labeled: Azalea, Swamp Azalea, *Azalea mollis*.

**Life history:** Information associated with Gipsy Moth Lab. 12164J33 is as follows: "29 green sawfly larvae collected on azalea at Melrose, Mass., June 11, 1923 by Hartley. June 23, 1923—larvae in soil. Emergence of adults, May 15-22, 1924—21 adults. June 23, 1924—8 unissued cocoons. No parasites." There is apparently a single generation a year with the adults appearing in May and larval feeding taking place in June. All adults examined were collected in May. The seasonal occurrence coincides closely with that of *Amauronematus azaleae* Marlatt.

**Discussion:** This species belongs in the *Oligospilus* group of *Nematus*. The features distinguishing this species are the predominately yellow to orange coloration, though shared by other members of this species group, plus the rather long, slender, shining sheath which is slightly emarginated below. I know of no other species with this sheath shape.

I have not seen larvae of this species. Most *Nematus* larvae are separated from *Amauronematus* larvae by having annulets 2 and 4 of abdominal segments 1 to 8 setiferous. *Amauronematus* commonly has annulets 2 and 3 setiferous.

This species is named for Louis J. Lipovsky, Maine Forest Service, Augusta, who collected part of the type series.

#### ACKNOWLEDGMENTS

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#### REFERENCE

- Dyar, H. G. 1897. On the larvae of certain saw-flies (Tenthredinidae). Jour. New York Entomol. Soc. 5:18-30.